

# SEQUENCE-PRESERVING MULTIPROCESSING SYSTEM WITH MULTIMODE TDM BUFFER

## ABSTRACT

5 A parallel processing system includes a plurality of stages operatively coupled in parallel and operating simultaneously. Each stage including a process unit generating a predetermined function and a buffer coupled via a slow output and a slow input ports to the process unit. The buffer also includes a fast input port and a fast output port. A controller drives the buffer to operate in a Slow Read Phase when data is written from the buffer into the process unit, a Slow Write Phase when data is written into the buffer from the process unit, a Fast Write Phase when data is written at a fast rate into the buffer and a Fast Read Phase when data is read from the buffer.